

REMARKS/ARGUMENTS

The rejections presented in the Office Action dated June 8, 2010 (hereinafter Office Action) have been considered. Claims 86-93, 95-110, and 112-123 remain pending in the application. Reconsideration of the pending claims and allowance of the application in view of the present response is respectfully requested.

The Office Action rejected claims 86, 88, 89, 91-93, 95-99, 101, 104, 106, 107, 109, 112-117, and 121 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,902,250 (Verrier et al.), hereinafter “Verrier”, in view of U.S. Patent Application Publication US 2005/0119711 (Cho et al.), hereinafter “Cho”, and further in view of U.S. Patent Application Publication US 2003/0083241 (Young). Applicants respectfully traverse.

On page 4 of the Office Action, the Examiner appears to acknowledge that neither Verrier nor Cho discloses sensing pectoral muscle tone, or detecting REM sleep status based on the pectoral muscle tone (see e.g. claim 86). The Examiner however then characterizes Young as follows:

“Young teaches that sensing a muscle tone in a pectoral region is a positive sign of REM-sleep which is typically accompanied by muscle atonia in that region (§0047).” (p. 4 of the Office Action)

and

“... Young teaches sensing muscle tone or lack thereof – atonia – in a pectoral region of a patient to determine REM sleep status.” (p. 8 of the Office Action)

Applicants strongly but respectfully disagree with these characterizations of Young. The cited paragraph 0047 of Young contains the following muscle-related discussion:

“... Also in the course of normal REM-sleep, and to lesser degree in deep NREM-sleep, atonia of the postural muscles develops and extends to the muscles of the upper airway leading to a collapse of the soft tissues, resulting in upper airway obstruction of varying degree. The teaching of Werth et al., indicates that muscle atonia in non-REM sleep can be readily produced in normal individuals by selective REM sleep deprivation (Werth, et al., 2002).”

The first sentence of this quotation, in simplified form, says that in the course of normal REM-sleep, atonia of the postural muscles develops. The second sentence, in simplified form, says that muscle atonia in non-REM sleep can be produced by selective REM sleep deprivation. In neither of these statements, and nowhere in the cited paragraph, does Young mention actually sensing muscle tone. Furthermore, in neither statement, and nowhere in the cited paragraph, does Young teach or even hint at using a sensed muscle tone so as to detect REM sleep status. Despite Young's discussion of a relationship between REM sleep and muscle atonia, Young does *not* recognize the utility of sensing the muscle tone and then using the sensed muscle tone to detect REM sleep. The Office Action is incorrect when it says that "Young teaches sensing muscle tone ... in a pectoral region of a patient to determine REM sleep status."

The rejection of independent claim 86, for example, is therefore based on a misinterpretation of Young. In the absence of any teaching in Young of "sensing pectoral muscle tone ..." and "detecting REM sleep status based on the pectoral muscle tone", none of the asserted references (Verrier, Cho, or Young) teach these claim features, and their combination cannot logically teach those claim features either.

The rejection of independent claim 104 is based on the same misinterpretation of Young. Using language similar to claim 86, claim 104 recites a first sensor "configured to sense muscle tone in a pectoral region ... and to detect REM sleep status based on the pectoral muscle tone". For the reasons discussed above, Young wholly fails to teach these features of claim 104. In the absence of any teaching in Young of a first sensor "configured to sense muscle tone in a pectoral region ... and to detect REM sleep status based on the pectoral muscle tone", none of the asserted references (Verrier, Cho, or Young) teach these claim features, and their combination cannot logically teach those features either.

A *prima facie* rejection under § 103 requires, among other things, a determination of the scope and content of the prior art. Yet, the Office Action incorrectly assesses the scope and content of Young in order to establish a teaching of the above-discussed claim elements of independent claims 86 and 104. Since the rejections of claims 86 and 104 rest upon a misinterpretation of Young, no *prima facie* rejection under § 103 has been made. The

rejection of claims 86 and 104, and of their respective dependent claims 88, 89, 91-93, 95-99, 101, 106, 107, 109, 112-117, and 121, cannot be sustained and should be withdrawn.

The Office Action rejected claims 87 and 105 under 35 U.S.C. §103(a) as being unpatentable over Verrier in view of Cho and further in view of U.S. Patent 6,387,907 (Hendricks). Claims 99, 118, and 119 were also rejected under 35 U.S.C. §103(a) as being unpatentable over Verrier in view of Cho and further in view of U.S. Patent 6,572,557 (Tchou et al.), hereinafter “Tchou”. Claims 102, 103, 122, and 123 were rejected under 35 U.S.C. §103(a) as being unpatentable over Verrier in view of Cho and Young, and further in view of U.S. Patent Application Publication US 2003/0111079 (Mathews et al.) and U.S. Patent Application Publication US 2004/0249299 (Cobb).

In response, Applicants note that none of the additionally cited references Hendricks, Tchou, Mathews, or Cobb remedy the shortcomings of Young discussed above in connection with the respective base claims 86 or 104. At least on that basis, the rejections of dependent claims 87, 99, 102, 103, 105, 118, 119, 122, 123 cannot be sustained and should be withdrawn.

If for any reason the above observations and arguments do not result in a Notice of Allowance for this application, Applicants respectfully request that the finality of the Office Action be withdrawn in view of the claim amendments made in the May 4, 2010 RCE filed by Applicants in a good faith attempt to advance prosecution of the application.

To the extent that the current response has not responded to any characterization in the Office Action of the asserted art or of the claimed subject matter, or to any application in the Office Action of the asserted art to any claimed subject matter, it is stated for the record that any such lack of response should not be interpreted as an acquiescence to such characterizations or applications. A detailed discussion of each of the Office Action's characterizations, or any other assertions or statements beyond that provided above is unnecessary in view of the present response. The right to address in detail any such assertions or statements in the future is reserved.

Authorization is given to charge Deposit Account No. 50-3581 (GUID.060PA) any necessary fees for this filing. If the Examiner believes it necessary or helpful, the Examiner is invited to contact the undersigned attorney to discuss any issues related to this case.

Respectfully submitted,

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